

2009 FERMI 2 POWER PLANT

INITIAL EXAMINATION

ADMINISTRATIVE FILES

Facility: <u>Fermi</u>		Date of Examination: <u>3/16/09</u>
Developed by: Written - Facility <input checked="" type="checkbox"/> NRC <input type="checkbox"/> // Operating - Facility <input type="checkbox"/> NRC <input type="checkbox"/>		
Target Date*	Task Description (Reference)	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b)	<i>CDM</i>
-120	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	<i>CDM</i>
-120	3. Facility contact briefed on security and other requirements (C.2.c)	<i>CDM</i>
-120	4. Corporate notification letter sent (C.2.d)	<i>CDM</i>
[-90]	[5. Reference material due (C.1.e; C.3.c; Attachment 2)]	<i>CDM</i>
{-75}	6. Integrated examination outline(s) due, including Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, ES-D-1's, ES-401-1/2, ES-401-3, and ES-401-4, as applicable (C.1.e and f; C.3.d)	<i>CDM</i>
{-70}	{7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)}	<i>CDM</i>
{-45}	8. Proposed examinations (including written, walk-through JPMs, and scenarios, as applicable), supporting documentation (including Forms ES-301-3, ES-301-4, ES-301-5, ES-301-6, and ES-401-6, and any Form ES-201-3 updates), and reference materials due (C.1.e, f, g and h; C.3.d)	<i>CDM</i>
-30	9. Preliminary license applications (NRC Form 398's) due (C.1.i; C.2.g; ES-202)	<i>CDM</i>
-14	10. Final license applications due and Form ES-201-4 prepared (C.1.i; C.2.i; ES-202)	<i>CDM</i>
-14	11. Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	<i>CDM</i>
-14	12. Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	<i>CDM</i>
-7	13. Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	<i>CDM</i>
-7	14. Final applications reviewed; 1 or 2 (if >10) applications audited to confirm qualifications / eligibility; and examination approval and waiver letters sent (C.2.i; Attachment 4; ES-202, C.2.e; ES-204)	<i>CDM</i>
-7	15. Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	<i>CDM</i>
-7	16. Approved scenarios, job performance measures, and questions distributed to NRC examiners (C.3.i)	<i>CDM</i>
<p>* Target dates are generally based on facility-prepared examinations and are keyed to the examination date identified in the corporate notification letter. They are for planning purposes and may be adjusted on a case-by-case basis in coordination with the facility licensee.</p> <p>[Applies only] {Does not apply} to examinations prepared by the NRC.</p>		

1. Pre-Examination

I acknowledge that I have acquired specialized knowledge about the NRC licensing examinations scheduled for the week(s) of 3/16/09 as of the date of my signature. I agree that I will not knowingly divulge any information about these examinations to any persons who have not been authorized by the NRC chief examiner. I understand that I am not to instruct, evaluate, or provide performance feedback to those applicants scheduled to be administered these licensing examinations from this date until completion of examination administration, except as specifically noted below and authorized by the NRC (e.g., acting as a simulator booth operator or communicator is acceptable if the individual does not select the training content or provide direct or indirect feedback). Furthermore, I am aware of the physical security measures and requirements (as documented in the facility licensee's procedures) and understand that violation of the conditions of this agreement may result in cancellation of the examinations and/or an enforcement action against me or the facility licensee. I will immediately report to facility management or the NRC chief examiner any indications or suggestions that examination security may have been compromised.

2. Post-Examination

To the best of my knowledge, I did not divulge to any unauthorized persons any information concerning the NRC licensing examinations administered during the week(s) of 3/16/09. From the date that I entered into this security agreement until the completion of examination administration, I did not instruct, evaluate, or provide performance feedback to those applicants who were administered these licensing examinations, except as specifically noted below and authorized by the NRC.

PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE	NOTE
1. Rob Brixey	Exam Writer	<i>[Signature]</i>	09/18/09	<i>[Signature]</i>	5/25/09	1
2. Michael Fulweber	Reactor Operator	<i>[Signature]</i>	12/18/08	<i>[Signature]</i>	5/19/09	2
3. Sean P. Farrell	SRO	<i>[Signature]</i>	12/18/08	<i>[Signature]</i>	5/19/09	2
4. Marc Himebaugh	SRO	<i>[Signature]</i>	12-18-08	<i>[Signature]</i>	5-20-09	
5. Greg Miller	SRO	<i>[Signature]</i>	12-18-08	<i>[Signature]</i>	5/11/09	2
6. Phillip Shurbek	SRO	<i>[Signature]</i>	12-19-08	<i>[Signature]</i>	3/25/09	
7. WILLIAM KLINE	SRO	<i>[Signature]</i>	12-19-08	<i>[Signature]</i>	5/19/09	2
8. Rob Richards	RO	<i>[Signature]</i>	12/19/08	<i>[Signature]</i>	6/9/09	
9. Gregory Almes	SM	<i>[Signature]</i>	12/30/08	<i>[Signature]</i>	5/24/09	
10. Stephen A. Ballinger	Manuf. GS	<i>[Signature]</i>	1/23/09	<i>[Signature]</i>	3/24/09	
11.						
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15.						

NOTES:

- 1 - Per Telecom
- 2 - Per Signed Email

JUN 10 2009

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	PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
- 1.	Michael Paul	Shift Manager	<i>Michael Paul</i>	2-17-09	<i>Michael Paul</i>	3-25-09
2.	CHRIS McALISTER	NSO	<i>Chris McAlister</i>	2-17-09	<i>Chris McAlister</i>	3-25-09
3.	JAMES GEORGE	NSO	<i>James George</i>	2-17-09	<i>Tony [unclear] for J. George</i>	5/23/09 1
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NOTES: 1 - Per Signor's E-mail

JUN 10 2009

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2. Post-Examination

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PRINTED NAME	JOB TITLE / RESPONSIBILITY	SIGNATURE (1)	DATE	SIGNATURE (2)	DATE NOTE
1. Lynn H. Barker	Proj Lead	<i>Lynn H. Barker</i>	2/13/08	<i>Lynn H. Barker</i>	3/16/09 1
2. Tony M. Roberts	Exam Developer	<i>Tony Roberts</i>	3/13/08	<i>Tony Roberts</i>	5/29/09
3. RICHARD A. WEISBERG	EXAM DEVELOPER	<i>Richard A. Weisberg</i>	8/13/08	<i>Richard A. Weisberg</i>	3/23/09
4. PATRICK A. TADAWAKI	EXAM DEVELOPER	<i>Patrick A. Tadawaki</i>	8/13/08	<i>Patrick A. Tadawaki</i>	3/24/09
5. Bryan D. Craig	Project Mgr	<i>Bryan D. Craig</i>	8/13/08	<i>Bryan D. Craig</i>	3/24/09
6. William L. Wade	Simulator Support	<i>William L. Wade</i>	8/13/08	<i>William L. Wade</i>	3/25/09
7. Michael A. Donigan	Simulator Support	<i>Michael A. Donigan</i>	8/18/08	<i>Michael A. Donigan</i>	3/24/09
8. Timothy J. Barrett	Project Lead	<i>Timothy J. Barrett</i>	10-20-08	<i>Timothy J. Barrett</i>	3/24/09
9. Michael Doulet	General Supervisor	<i>Michael Doulet</i>	12-11-08	<i>Michael Doulet</i>	3-24-09
10. Jerome Flint	Licensing	<i>Jerome Flint</i>	12-15-08	<i>Jerome Flint</i>	3/23/09
11. Suzanne Reith	Shift Manager	<i>Suzanne Reith</i>	12/19/08	<i>Suzanne Reith</i>	5/14/09 2
12. Jay F. Baum	NERP Specialist	<i>Jay F. Baum</i>	1-9-09	<i>Jay F. Baum</i>	5-7-09
13. David J. Harmon	TRAINING INSTRUCTOR RP	<i>David J. Harmon</i>	1-13-09	<i>David J. Harmon</i>	5/7/09
14. Stephen A. Bollinger	General Supervisor	<i>Stephen A. Bollinger</i>	05/31/09		
15.					

NOTES:

- 1 - Per Telecon
- 2 - Per Signed E-Mail

JUN 10 2009

Tier / Group	Randomly Selected K/A	Reason for Rejection
1 / 1	295027	High Containment Temperature – Mark III is N/A at Fermi 2. Fermi 2 has a Mark I Containment, an equivalent EPE 295028 High Drywell Temperature is sampled on this outline.
1 / 2	295011	High Containment Temperature – Mark III is N/A at Fermi 2. Fermi 2 has a Mark I Containment, an equivalent EPE 295028 High Drywell Temperature is sampled on this outline.
2 / 1	207000	207000 Isolation Condenser is N/A at Fermi 2. Fermi 2 uses Reactor Core Isolation Cooling, system 217000, which is sampled on this outline.
2 / 1	209002	209002 HPCS is N/A at Fermi 2. Fermi 2 uses HPCI, system 206000, which is sampled on this outline.
2 / 2	201004	201004 RSCS is N/A at Fermi 2. This system is abandoned in place Fermi 2 uses RWM, but was not randomly selected.
2 / 2	239003	239003 MSIVLCS is N/A at Fermi 2. This system is abandoned in place.
2 / 2	201005	201005 RCIS is for BWR 6 and N/A at Fermi 2 which is a BWR 4. Randomly re-selected 202001 Recirculation KA K2.02.
3	Generic 2.2.5	Randomly selected for RO, but IR is < 2.5. Randomly re-selected 2.2.25.
3	Generic 2.2.6	Randomly selected for SRO, already selected for RO. Re-selected 2.2.38 to minimize over sampling.
3	Generic 2.3.6	Randomly selected for RO, but IR is < 2.5. Randomly re-selected 2.3.4.
1 / 1	295016 AA1.09	Isolation/Emergency Condenser(s) randomly selected, but N/A at Fermi 2. Randomly re-selected AA1.06, Reactor water level.
1 / 1	295024 EK3.03	Randomly selected and states Mk III containment. Fermi 2 has a Mk I containment. Randomly reselected EK3.08 – Containment Spray, which is applicable to Fermi 2.
1 / 2	295017 EA2.03	Randomly selected but was selected for 295038 High Off-Site Release Rate. To prevent over sampling randomly re-selected AA2.04.
2 / 1	206000 A2.13	Randomly selected, but IR value < 2.5. Randomly re-selected A2.09.
2 / 1	400000 K5	KA K5 IR value is less than 2.5 for system 400000, Component Cooling Water. Randomly re-selected K6 to replace.
2/1	203000 A1.06	KA has RO IR < 2.5. Random re-selection of A1.04.
2 / 2	201003 K2	Randomly selected but no KA statements under K2, randomly re-selected K3.01.
2 / 2	219000 K6.05	Randomly selected, RO IR value 2.2, randomly re-selected K6.09.
2 / 2	230000 A1.07	Randomly selected, RO IR value 2.4, randomly re-selected A1.02.
2 / 1	259002 A3.09	FWCI is not used at Fermi-2. Randomly reselected A3.06.
3	2.1.18	Could not write an appropriate RO Level question on this topic. Randomly reselected 2.1.8.
1 / 1	295026 2.4.3	Statement is not unique to the SRO Level. Randomly reselected statement 2.4.18
1 / 2	295034 EA2.01	Double Jeopardy with RO 10. Randomly reselected 295009 AA2.01
2 / 1	205000 A2.01	There is no plant-specific affect of High Recirc Loop Temperature on Shutdown Cooling at Fermi-2. Randomly reselected statement A2.10.

Facility:	Date of Exam:	Exam Level: RO <input checked="" type="checkbox"/> SRO <input type="checkbox"/>	
Item Description	Initials		
	a	b	c
1. Clean answer sheets copied before grading	FR	TSB	CM
2. Answer key changes and question deletions justified and documented	FR	TSB	CM
3. Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)	FR	TSB	CM
4. Grading for all borderline cases (80 ±2% overall and 70 or 80, as applicable, ±4% on the SRO-only) reviewed in detail	FR	TSB	CM
5. All other failing examinations checked to ensure that grades are justified	N/A	N/A	NA
6. Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants	FR	TSB	CM
	Printed Name/Signature	Date	
a. Grader	<u>TONY ROBERTS / Tony Roberts</u>	<u>3/24/09</u>	
b. Facility Reviewer(*)	<u>SCOTT M. Schmas / Scott M. Schmas</u>	<u>3/25/09</u>	
c. NRC Chief Examiner (*)	<u>CALL MOORE / Call Moore</u>	<u>3/30/09</u>	
d. NRC Supervisor (*)	<u>Hironori Peterson / Hironori Peterson</u>	<u>4/10/09</u>	
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.			

Facility:		Date of Exam:		Exam Level: RO <input type="checkbox"/> SRO <input checked="" type="checkbox"/>		
Item Description				Initials		
				a	b	c
1.	Clean answer sheets copied before grading			FR	MS	CLM
2.	Answer key changes and question deletions justified and documented			FR	MS	CLM
3.	Applicants' scores checked for addition errors (reviewers spot check > 25% of examinations)			FR	MS	CLM
4.	Grading for all borderline cases (80 ±2% overall and 70 or 80, as applicable, ±4% on the SRO-only) reviewed in detail			FR	MS	CLM
5.	All other failing examinations checked to ensure that grades are justified			N/A	N/A	N/A
6.	Performance on missed questions checked for training deficiencies and wording problems; evaluate validity of questions missed by half or more of the applicants			FR	MS	CLM
				Printed Name/Signature		Date
a.	Grader			Tony Roberts / Tony Roberts		3/24/09
b.	Facility Reviewer(*)			Scott M. Schaus / Scott M. Schaus		3/25/09
c.	NRC Chief Examiner (*)			Call Moore / Call Moore		3/30/09
d.	NRC Supervisor (*)			Hironori Peterson / Hironori Peterson		4/10/09
(*) The facility reviewer's signature is not applicable for examinations graded by the NRC; two independent NRC reviews are required.						

Fermi March 2009 Exam

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws					5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Back-ward	Q=K/A	SRO Only				
1	H	2				X										S	Distractor D needs work. As written it current states that the discharge valve has shut, indicating that it has gone full closed. It would be better if it read "... Valve, has gone from 100% OPEN to 78% OPEN."
2	H	3				X										E	I don't believe distractors A and B are plausible when we state in the stem that the MODE SWITCH is in SHUTDOWN. Provide switch yard electrical one line diagram. Mode is not dependent on MODE SWITCH position It is dependent on RCS temp. Therefore questioned was changed to make distractors A&B plausible.
3+	H	2				X										S	With a loss of DC control power distractors A & B are not plausible. Need to see DC supply electrical print. How easy is it to figure out what the control pwr supply is for 65E Pos E6? Multiple supplies from battery 2B-1 make distractors A&B plausible.
4	H	2														S	Pretty easy question.
5	F	3			X	X										U	The stem should read 'The Level 3 RPV ...' Are all distractors correct the way the question is written???? Is this a SRO only question, asking about a TS bases. Could be considered RO if there is a RO learning objective. RO learning objective LP-OP-315-0127-C013.

Instructions

[Refer to Section D of ES-401 and Appendix B for additional information regarding each of the following concepts.]

- Enter the level of knowledge (LOK) of each question as either (F)undamental or (H)igher cognitive level.
- Enter the level of difficulty (LOD) of each question using a 1 – 5 (easy – difficult) rating scale (questions in the 2 – 4 range are acceptable).
- Check the appropriate box if a psychometric flaw is identified:
 - The stem lacks sufficient focus to elicit the correct answer (e.g., unclear intent, more information is needed, or too much needless information).
 - The stem or distractors contain cues (i.e., clues, specific determiners, phrasing, length, etc).
 - The answer choices are a collection of unrelated true/false statements.
 - The distractors are not credible; single implausible distractors should be repaired, more than one is unacceptable.
 - One or more distractors is (are) partially correct (e.g., if the applicant can make unstated assumptions that are not contradicted by stem).
- Check the appropriate box if a job content error is identified:
 - The question is not linked to the job requirements (i.e., the question has a valid K/A but, as written, is not operational in content).
 - The question requires the recall of knowledge that is too specific for the closed reference test mode (i.e., it is not required to be known from memory).
 - The question contains data with an unrealistic level of accuracy or inconsistent units (e.g., panel meter in percent with question in gallons).
 - The question requires reverse logic or application compared to the job requirements.
- Check questions that are sampled for conformance with the approved K/A and those that are *designated SRO-only* (K/A and license level mismatches are unacceptable).
- Enter question source: (B)ank, (M)odified, or (N)ew. Check that (M)odified questions meet criteria of ES-401 Section D 2.f.
- Based on the reviewer's judgment, is the question as written (U)nsatisfactory (requiring repair or replacement), in need of (E)ditorial enhancement, or (S)atisfactory?
- At a minimum, explain any "U" ratings (e.g., how the Appendix B psychometric attributes are not being met).

A "+" in the "Q#" column indicates that question was reviewed as part of the representative sample of 30 questions.

Fermi March 2009 Exam

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
6+	F	2														S	
7	H	3														S	
8	H	3														E	Add 'procedurally directed' before action required to restore the supply to IAS. Is it possible to manually Open P5000-F473??? If it is, is this in a procedure anywhere??? ARP 7D55 directs the opening of the manual bypass.
9+	H	3														U	Need an explanation why distractor C will not eventually be correct. Will RCS eventually pressurize. Replaced question.
10	F	2														S	
11	F	2														E	Change Drywell temp to 175F in bullet #3. Can drywell temp be 125F at 12 psig??? Changed drywell temp to 225F.
12	H	3														S	The last bullet should read '... INCREASED to 1060 psig.' Something further away from the 1047 setpoint to keep away from instrument inaccuracies. Agreed to leave unchanged
13+	H	1		X												E	Direct lookup. Read right off chart provided. Consider removing note to use next higher HCL curve or provide multiple charts to make applicant select the correct graph to use. Agreed to remove chart and provide EOP chart 6 which contains all EOP charts.
14	F	2														S	Straight forward question. Why is distractor B wrong? Do you need to scram prior to drywell spray actuation???
15	H	1		X												E	Direct lookup. Read right off charts provided. Provide multiple charts to make applicant select the correct graph to use. Agreed to remove chart and provide EOP chart 6 which contains all EOP charts.
16+	H	2														E	Why isn't there a bullet stating Jet Pps are off or RR Pp's are off. Need to change distractor A to read 'WR RPV wate level is inaccurate and will read higher than actual during plant C/D.' Change distractor D to Read 'WR RPV water level is inaccurate and will read lower than actual during plant C/D.' Changed RPV water level to +15 inches.
17	F	3														E	Delete be out of distractor D.
18	F	2				X										U	Distractor D is not plausible unless hepa and charcoal filters exist for the TB. Will be a direct look-up if EOP flow charts are provided. UNSAT until we see a learning objective to justify. Learning objective LP-OP-315-0174-C011. Distractor D was changed to a rate.
19+	F	3														S	Straightforward memory question.
20	H	2														E	Need to Capitalize TRIP is distractor D. Question would be better/more difficult if degraded voltage setpoint was incorporated. Distractor D updated.

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			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only						
21	H	3														U	Need better explanation as to why distractors C & D are plausible. How did RPV leak break RHR piping??? How did RPV leak then go away(to make A the correct answer)??? How was RHR piping broken??? Need to see P&ID. Question was replaced.		
22	H	2															S		
23+	H	2																S	
24	H	3																E	Change an to a . Change font to bold for 'unisolable leak'. Do RO's need to know this? Yes they do. This is a direct look-up if EOP flow charts are provided. Do you need to be near the general emergency release rates before you ED; thus making no answer correct. Shouldn't the stem state that an unisolable leak is occurring and the GE dose rate limits are being exceeded??? Need to see learning objective to make sure this is an RO question. Learning Objective is LP-OP-802-3005-0016. Stem has been changed.
25	H	3																E	Distractor B - add the word 'of' after 'shutdown'. If the steam leak were big enough could it become necessary to S/D or Scram the Rx? What if we start at 50% Rx power, this would prevent overpower conditions. Changed distractor C to Isolate HPCI system.
26+	F	2				X									N		S	The justification of answer A makes distractor C correct. This is not a correct conclusion, dist. C is wrong. How is distractor B plausible? How can a differential air pressure cause equipment to be inop??? Can a large enough leak pressurize the secondary cnmt, making distractor D correct??? Have to make an assumption for D to be correct.	
27	F	3																E	Add '... Torus Sprays operated when specified?' to Stem. Also add combustible in front of gases in distractors B & D. Stem altered and combustible added.
28	H	2																E	Seem like a very easy question. Need to change distractor B, not plausible when referring to LPCI providing protection for a SBLOCA. One possible fix is to change 'SMALL and LARGE' with 'ALL LOCA's' Changed SMALL to ALL.
29+	H	3				X												E	Need to make stem read '... must be repositioned per the applicable procedure, and how will RHR ...'. Changed stem to 'be repositioned per the applicable procedure'.
30	H	1-2																E	Need to increase turbine speed in bullet #3. Distractor A is also a correct answer isn't it??? Why won't the HPCI Pp cavitate with lowering CST level??? Because pump trips on low level prior to cavitation. Changed turbine speed to 4800 rpm.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
31	H	2				X									S	Why is distractor D plausible??? Why would you close mini-flow valve with 0 gpm indicated??? Could change to 'Throttle Close' instead of Shut. Can't because miniflow valve is open or closed, no throttling capability.
32	H	3													U	Distractors B & D are not plausible. When would the Test Tank contain Sodium Pentaborate??? Also need to remove the word MAY from all distractors. Replaced question with a new one.
33+	F	1-2													E	Change stem to say what is the lowest pressure or the first indicated pressure after the reactor scram. Changed stem so only one correct answer.
34	F	1-2													S	Easy question. Consider making this one harder.
35	F	2													E	Need to find out if distractors C & D are plausible when a DOWNSCALE failure occurs if the question is OK. Need to add 'the' to the stem after shorten. THE added to the stem.
36+	H	4													S	
37	F	3													E	Need to verify distractor B is wrong, what will cooling flow be based on pump parameters. Is it dependant on Pp RPM? What will it be at 1900rpm? Site assures us that at 1900 rpm adequate cooling flow will be available. Also need to change RCIC flow to 120 gpm. RCIC flow changed to 120 gpm.
38	H	2													S	Need to verify power sources to timers. Look at prints
39+	H	3													S	
40	H	2													U	Change stem to ask required action per procedure 20.000.25? Distractor A & D are not plausible with tailpipe temps 300F and stable. Third bullet changed from tailpipe temp to 60 MW decrease.
41	F	1-2													S	Easy setpoint question.
42	H	2													U	Not sure distractor D is plausible. Distractor C should state which Rx Bldg dampers failed to isolate. Would Distractor A be correct if Rx Bldg supply fans tripped??? Are there Rx Bldg supply fans? Question has multiple correct answers. SITE to change Distractor D, It may be a correct answer. Distractor D changed.
43+	F	1-2													S	Easy D/G question. If we could add the reason for the Bypass position it may make it harder.
44	F	1-2													S	All of these distractors are generic power supplies. Are there more than one uninterruptable power supply??? These need to be more specific. What are the EPN's for specific power supplies. Site says these are adequate descriptions of the power sources.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6. B/M/N	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
45	F	3													E	Change stem to indicate which Div I ESF DC Power bus is lost. Is G33-F004 a DC solenoid valve??? If its not, will it CLOSE or be unable to be closed??? Change distractor D to Inboard or Outboard Valves will close, not all valves will close not as plausible. Changed distractor D to Inboard MSIV's.
46+	H	2													S	
47	F	3													S	Look at print to verify correct answer.
48	H	2													U	Easy EECW system question. Could make it harder if we ask for auto start setpoint for EECW. Site indicated that distractor B is also a correct answer. This must be corrected. B change to CRD hydraulic pumps.
49+	H	2													U	Given bullet #4 Distractors A & C are not plausible. Very low level of knowledge required to answer question. Changed stem to remove bullet #4 and add two other bullets.
50	H	3													E	Think about changing indefinitely in distractor D to 14 days or something different. I don't think indefinitely is plausible for a CS LCO. Distractor B is not plausible in Mode 3 Hot S/D. CS is required during periods of time when the Rx is HOT. Only change will be to add 'in the present Mode' to distractor D. Distractor D changed.
51	H	2													S	Easy RPS actuation question.
52	H	2													E	Is distractor C plausible??? Going from range 6 to range 5 shouldn't clear a rod block. Consider changing distractor C to read No Affect. Also, change stem to read '... following describes the affect, if any, of placing ...'. Stem changed to add 'if any' and distractor C changed to 'There is no effect'.
53+	H	3													E	Change 'breaks' to 'break' in first sentence of stem. Removed s from breaks.
54	F	2													S	Basic rod control question. What if we incorporated valve power supplies into the question???
55	H	2													U	I don't think distractors A or B are plausible. Need to know what causes a rod drift alarm and need to find out why overtravel is plausible when the rod is stuck and stopped at position 36. Change the word 'could' in stem to 'would'. Stem changed to make distractors A&B plausible and question more focused.
56+	F	2													S	Easy power supply question. This question could be changed to ask what reactor pressure would be following this event.
57	F	2													E	Change first 'at' in stem to 'a'. Change distractor C from 'speed' to 'speeds'. Both changes made.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
58	H	3													S	Could distractors A and C be correct, with high system flow couldn't we have high system temp and or high system pressure??? Are there Hi Temp and Hi Press alarms??? Potential fix is add a bullet that reads ' All other indications Normal'. Site Indicates that HI Temp and HI Pressure alarms will not come in when valve goes full open.
59+	H	3													S	
60	H	3													E	Need to find out why DWSIL violations forbid drywell spray operation under these conditions. Why don't they initiate DWS at 250F & 4 psig??? Show me on flow charts how DWS is initiated. Based on Pri Crnmt Control flow chart DWS not required, therefore not correct answer. What casues Torus Spray??? Shouldn't provide chart in stem of question, make applicant look up and use correct chart. Chart removed from question stem.
61	H	3													S	
62	F	2													S	Easy Condenser Pp setpoint question.
63+	F	2													E	Is distractor A plausible prior to a Rx scram??? Do we need to state that once the controller is placed in Emergency bypass that it needs to be opened in distractor D. No because that's what makes it wrong. Delete 1200 gpm from distractor C, no other distractor contains a flow rate. Pump flow rate removed from distractor C.
64	F	2													S	Easy Fire Protection system setpoint question.
65	F	2-3													E	Change distractor B "Div 2 SGTS" to "Div 1 SGTS". Also need to change distractors B & C to read "T4100-F010, RBHVAC Supply Outboard ..." and "T4100-F011, RBHVAC Supply Inboard ...". Recommended changes have been made.
66+	F	2													E	Rewrite to remove 'may'. One possibility would be "What would be an acceptable action per 23.138.01 ... and who would be qualified to perform this?". May removed from distractors.
67	F	2-3													E	Add of after event in distractor D. Of added to distractor D.
68	F	1-2													E	Shouldn't provide chart in stem of question, make applicant look up and use correct chart. Change distractor B to reading 'leading' and change distractor D to be 635 MVAR. Recommended changes made.
69+	F	2													S	Easy admin procedure question.
70	F	2													U	SRO only unless you have a RO learning objective requiring RO's know this from memory. Need to replace this question. Question replaced.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
71	F	2													S???	Is this correct??? Shouldn't this be a voluntary action performed in accordance with 10CFR20.1206??? NEED to check on this one. Question replaced.
72	H	3													E	Distractor A is not plausible as written. Not sure if distractor B is plausible either. Change distractor B to indicate " to reduce MCR pressure". Distractor B has been changes to incorporate 'reduced MCR pressure'.
73+	F	1-2													E	Is this an SRO question? How often are RO's using Emergency Procedure Flow Charts??? Providing the drawing gives away that distractor A is incorrect. Provided drawing has been changed to address concern.
74	H	2													S	
75	H	3													E	Good question. Change stem to read '... will NOT be available for long term use based on current trends. Changed stem to Incorporate '... will NOT be available for long term use based on current trends.
76+													Y		S	
77	H	3											Y		E	Fourth bullet change (is to are) Does the high release rate drive the E.D. or does the ATWS??? If ATWS does question meets K/A. The dose rate drives the ED, so question meets K/A. Change to 4th bullet made.
78	H	2											Y		S	The only things wrong in the stem are with the SFP so how are distractors A & B plausible??? Does low SFP level effect RHR??? No it doesn't.
79+	H	3											Y		E	Distractor D is not plausible with all RHR Pp's running is it??? Are distractors B, C & D plausible with RPV pressure already at 20 psig, it won't go any lower will it??? Still required to ED per EOP's. Shouldn't provide chart in stem of question, make applicant look up and use correct chart. Chart removed.
80	H	2													E	Change distractor B to read '...INOPERABLE due to Low Drywell Pressure ONLY, and ...', otherwise distractor B is a subset of distractor C. Change made to distractor B.
81	F	2													E	Add 'and why?' to the stem. Change made to stem.
82	H	3													E	Is distractor C plausible during an ATWS event??? Shouldn't provide chart in stem of question, make applicant look up and use correct chart. Is this SRO ONLY??? Yes it is. Chart removed from question stem.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7. U/E/S	8. Explanation	
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only				
83+	H	3														E	Distractor C is also a correct answer it needs to be changed to make it a wrong. It is a subset of the correct answer unless B loop of RHR won't start or E1150-F015B won't open. B loop RHR won't start due to loss of power. Need to change stem: 1) delete 'With' capitalize 'The' insert is between plant and in 2) change third bullet by adding 'with a cool-down in progress' 3) Change question to read, 'How is the plant affected by this loss of power, and which of the action(s) would restore the Plant?' 4) Delete 'may from all distractors 5) Change distractor B, second sentence to start with Restore RWCU Changes Incorporated.
84	H	3														E	Change distractor A to read 1130 instead of 1110. Switch order of distractors to put them in chronological order. Changes Incorporated.
85	H	3														E	Is distractor A plausible??? Why would be transition to the Severe Accident guidelines with 6800gpm and the core covered??? Can we change this to 50% core height or something less than -48 inches??? Will replace 32" with -40". Changes Incorporated.
86+	F	3														S	Easy question.
87	H	1-2														U	Easy question, but acceptable. Change stem to read Four ADS valves instead of Three. Change distractor C to read 'OPEN non-ADS Safety Relier Valve'. Change distractor D to indicate only a single control switch failure. Not SRO ONLY. Question replaced with new question.
88	F	1-2														U	Not SRO ONLY. Question fixed to include a procedure reference to make it SRO Only.
89+	H	3														S	Change Rx Bldg pressure to -0.30 in H2O column. Don't make both parameters out of spec. SR 3.6.4.1.6 requires secondary crmt to be maintained at less than -0.25" H2O with air flow less than 3000 scfm. Seems like there is an inconsistency between TS bases and VFTP if it requires 3800 scfm. Still inconsistencies exist, need to get to the bottom of this question. With -0.20" in Rx Bldg question is OK but TS bases still need to be reviewed to ensure they are correct.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7. U/E/S	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minulia	#/units	Backward	Q=K/A	SRO Only			
90	F	3													S	Should the stem state MRC alarms associated with the assumed failure??? and would this give the answer away??? Third bullet, was or did the ESF-EDG bus tie bkr ever close, since we state OPENED at the end of the bullet sentence??? Need a better explanation why distractor A is not also correct. Why is an electrical fault the only possibility??? What about a faulty relay in start logic??? Is distractor C plausible an SI signal should start all the EDG's??? Lastly is there an ABT on bkr E9??? Should it have closed??? Seems like there has got to be a better way to ask this question. Question is OK as written.
91	H	3													E	Is the 6 hrs a Tech Spec requirement??? Not suppose to ask < 1 hr action statements. Could just delete 'within 6 hours' from distractor B. Removed within 6 hrs from distractor B.
92	H	3													E	Very basic question. Don't include chart with question. Delete 'at 20% power.' from distractor C. Removed chart from question stem.
93+	H	2													S	Not sure distractor D is plausible.
94	H	2													U	Is distractor B plausible for a contractor supervisor??? Is distractor D also a correct answer??? Most programs require enhanced screening following a positive test. The original question has been replaced with a new question
95	F	3													S	
96+	F	3													S	Pretty good question. Good distractors.
97	F	2													E	Not sure what is suppose to be in the empty box??? Don't provide chart with question. Removed chart from question stem.
98	H	2													E	Not sure a Rapid C/D is plausible following a normal S/D??? I would eliminate C & D quickly. Add a bullet to indicate that an Alert condition exists due to offsite release rates. This will make distractors C & D more plausible. Change bullet four into a stand alone sentence which reads, 'After the Rx was S/D 3D82 MN STM LINE RAD UPSCL INOP CHANNEL TRIP alarm is received' Don't need to change fourth bullet. Change last sentence of stem to read 'Which one of the following strategies is required to minimize the radioactivity release to the environment.' Question changed to a bullet to indicate that an Alert condition exists due to offsite release rates. Stem question statement changed slightly also.
99+	H	3													U	This is an EOP bases question which is not SRO Only RO's are responsible for EOP bases as well. SRO Only would be TS bases. Not SRO ONLY. Original question has been replaced with a new question.

Q#	1. LOK (F/H)	2. LOD (1-5)	3. Psychometric Flaws					4. Job Content Flaws				5. Other		6.	7.	8. Explanation
			Stem Focus	Cues	T/F	Cred. Dist.	Partial	Job-Link	Minutia	#/units	Backward	Q=K/A	SRO Only			
100	F	2													U	A & C are not plausible. Level of Difficulty < 2. Replace question, K/A is very general so shouldn't be a problem. Original question has been replaced with a new question.

NRC Comments on Fermi Outline

No comments noted on Fermi outline.

Operating Test Comments

- 1) JPM, Startup UPS Bus A Rectifier Charger/Inverter. Need to put procedural step numbers into body of JPM so that examiners know which step the applicant should be performing. Need to put more information into the initial cue.
- 2) JPM, Defeat RBCCW / EECW to Drywell Isolations. Need to list required safety equipment / personnel protective equipment necessary to complete this task.
- 3) JPM, Perform a CRNSO Short Term Relief. Need to shorten the narrative log down to one page. Three pages will take too long to read, need to shorten this JPM.
- 4) JPM, Request Emergency Offsite Services. Remove the reference to procedure EP-290 from the initiating cue. The Shift Manager would not direct someone to get help per EP-290, he would direct someone to get help period.
- 5) JPM, Verify Offsite Electrical Lineup. Need to indicate that this is a Time Critical JPM that must be completed within 1 hour.
- 6) JPM, Evaluate Degraded Power Sources. Change this JPM to make applicants fill out paperwork documenting the tech spec LCO's that must be entered.
- 7) No Significant Comments on the Scenario's

Candidate Questions/Comments

During NRC Exam (3/20/09):

RO #15:

- Candidate asked how many Core Spray Pumps were running.
- Proctor pointed out that all the distracters used pumps, not pump, so there was more than one pump running. The clarification was written on the whiteboard.

SRO #2:

- Candidate asked if distracter D was written correctly.
- Proctor identified that a typographical error had occurred. The distracter should state "800 to 1000 psig" instead of "800 to 100 psig." The correction was written on the whiteboard and corrected on the answer key.

SRO #10:

- Candidate asked if the Core Spray injection was from one division or total flow.
- Proctor indicated that injection flow was Loop Flow indication. The clarification was written on the whiteboard.

During Interview following NRC Exam (3/24/09):

No substantive comments were given by the license candidates.